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**Title:** 8 Ft Vessel Refinishing Contract Introduction

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**Intended for:** Presentation for vendor introductions related to a contract for bid

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# 8 Ft Vessel Refinishing Contract Introduction

Jason Cardon

April, 2022



## Mission Need

- LANL utilizes spherical vessels for numerous basic science, materials, and system performance experiments
- The 8 ft vessel was fabricated early 2000s to ASME B&PVC Section VIII Division 1 using HSLA-100 material
- This vessel was not used operationally due to programmatic change in direction
- Years of improper maintenance and storage has resulted in deterioration of sealing surfaces and bolt hole threads
- New mission needs call for expanded capabilities in terms of vessel sizes, therefore refinishing the 8ft vessel is crucial



# 8 ft Vessel and Shipping Stand

Vessel shown with shipping covers installed

Vessel mounted to shipping stand using integral trunnions

Shipping stand rate for DOT specifications

Note exterior surface rust on weldment and nozzle components

Ø8' Spherical – 5 port

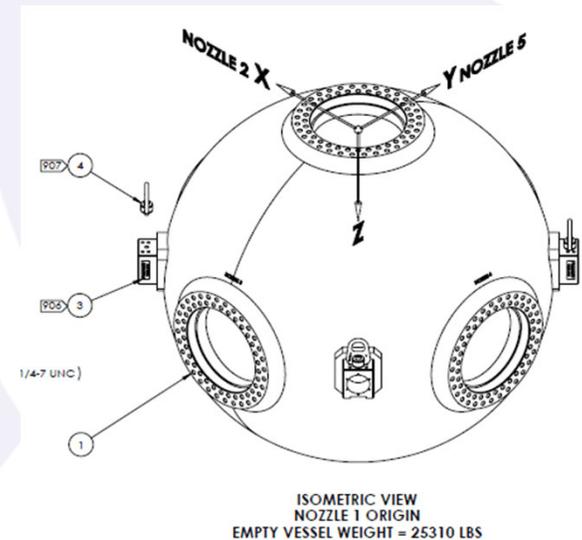


# Scope of Work (Phase I)

- Receive vessel and prepare a vessel fixturing plan to control all vessel movements and rotations
- Perform general cleaning of vessel exterior and interior surfaces
- Map pitting of interior surfaces
- Clean and finish all nozzle sealing surfaces
- Clean and chase all bolt hole locations
- Perform limited machining on trunnions to accept new swivel hoist rings (to be installed at LANL)
- Inspect all nozzle sealing surfaces and bolt hole locations
- Prepare final report detailing all inspection results
- Paint and label vessel
- Prepare vessel for shipment back to LANL



## Ø8 foot 5-Port Vessel



Production: 2-1/2" Thick Wall, 24" Diameter  
Access Port Nozzles

## Scope of Work (Phase II)

Optional Scope of Work to be determined by LANL

- Determination based on results of final inspection report from Phase I

Work with LANL to develop refurbishment plan to meet LANL operating criteria

Perform refurbishment work as determined in refurbishment plan

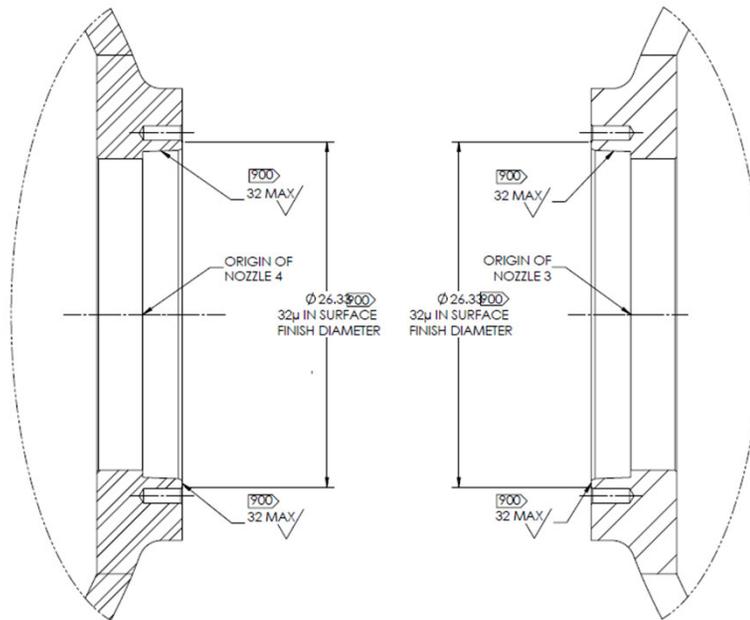
Perform final inspection per Phase I guidance

Paint and prepare vessel for shipment to LANL per Phase I guidance

Note: Welding on the vessel is not anticipated. If welding becomes necessary, contract modification will be required and LANL welding program/qualification will need to be followed.



# Sample Vessel Rework Drawing

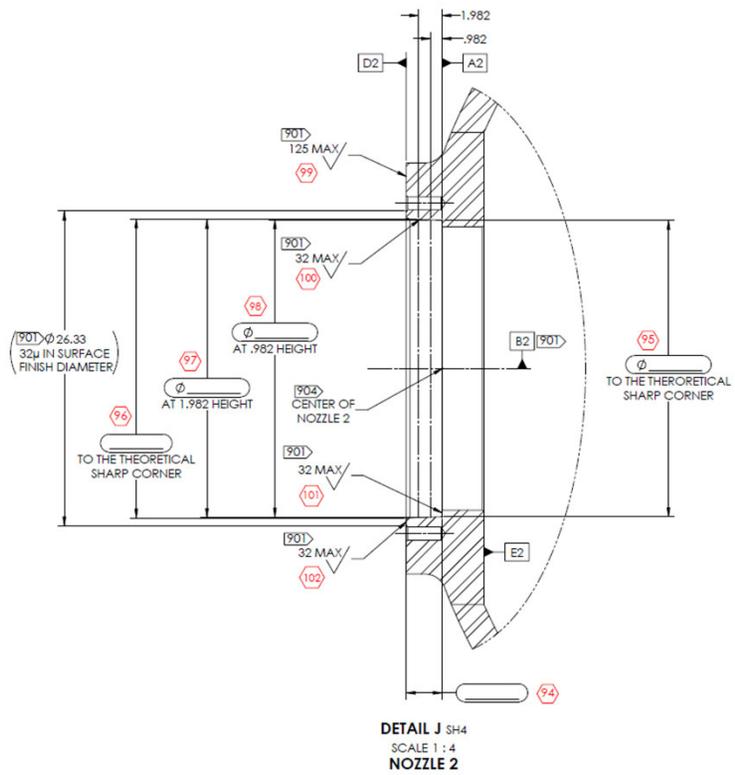


**DETAIL H** SH4  
SCALE 1 : 4  
**NOZZLE 4**

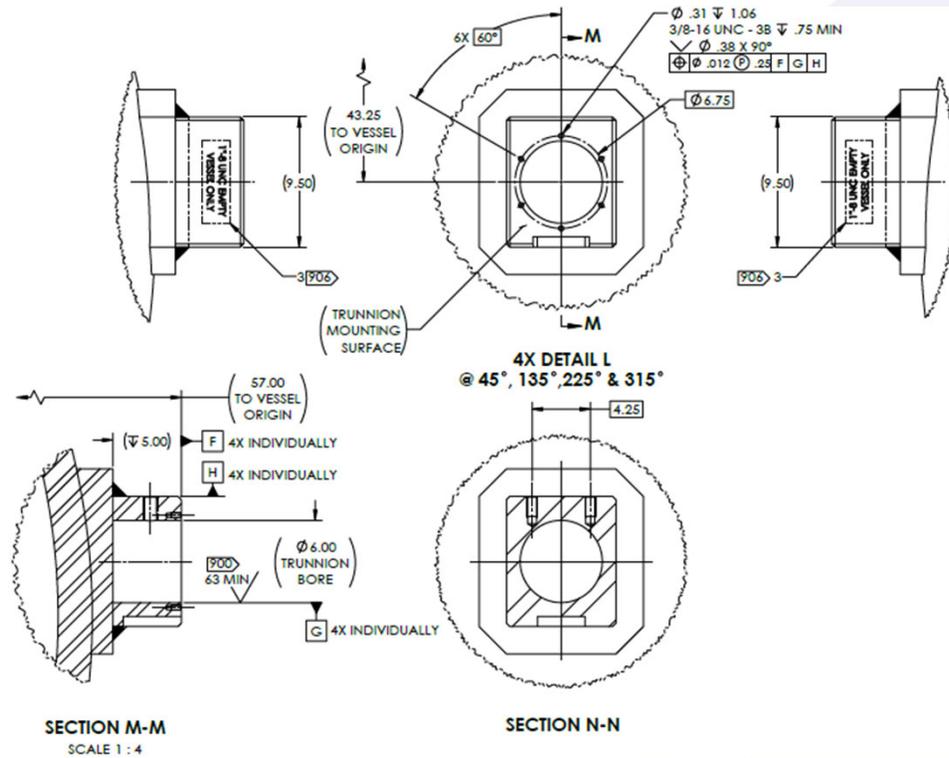
**DETAIL J** SH4  
SCALE 1 : 4  
**NOZZLE 3**



# Sample Inspection Drawing



# Limited Machining of Trunnion Mounts



## Timeline

- Contract Introduction Meetings as Scheduled with Subcontractor
- RFQ issued Summer 2022
- Intent to Award 4-6 weeks after Proposal Submittal
- Develop Submittal Approval Schedule by 2 Weeks after Award
- Deliver Vessel to Vendor 2 Weeks after Submittal Schedule Approval
- Schedule as per Proposal



# Questions for Subcontractor???

- What capabilities & experience do you have?
  - Handling Vessels: Size, & Weight
  - Machining Capabilities: Size, Weight, Equipment, & Precision
  - Inspection & NDE Capabilities
- QA program and Implementation



# Questions and Contacts

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